

Claims

1. A display device comprising:

a substrate having a first region and a second region surrounding the first
5 region;

a plurality of first electrodes disposed in the first region;

an insulation member arranged in the first region and having a plurality of
openings that exposes a portion corresponding to each of the first electrodes;

light emitting patterns disposed on the first electrodes, the light emitting
10 patterns filling up the openings, respectively; and

a second electrode disposed on the light emitting patterns.

2. The display device of the claim 1, further comprising a plurality of
dummy light emitting patterns formed in the second region of the substrate.

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3. The display device of the claim 1, wherein the openings have a
rectangular shape that has a pair of long sides and a pair of short sides, and the
openings are arranged in a matrix shape along a first direction that is substantially
parallel with the long sides and a second direction that is substantially parallel with
20 the short sides in the first region.

4. The display device of the claim 3, wherein a side face of the
insulation member is extended from the first region to the second region in the first
direction and an extending length of the insulation member is equal to or less than a
25 width formed between the openings.

5. The display device of the claim 3, wherein a side face of the insulation member is extended from the first region to the second region in the second direction, and an extending length is equal to or less than a width formed between the openings.

6. The display device of the claim 1, wherein the openings are eccentrically disposed on the center of the first electrodes, respectively.

7. The display device of the claim 1, wherein each of the light emitting patterns includes a hole injection layer and a light emitting layer, and the light emitting layer is formed on the hole injection layer.

8. The display device of the claim 1, wherein an inside wall of the openings has an angle about 30° to 165° with respect to the first electrodes formed on the substrate.

9. The display device of the claim 1, wherein the first electrodes include a transparent conductive material, and the second electrode includes an opaque conductive material.

10. The display device of the claim 1, wherein the insulation member includes an organic material, an inorganic material or a photoresist material.

11. A display device comprising:

a substrate having a first region and a second region surrounding the first region;

a plurality of first electrodes disposed in the first region;

an insulation member formed on a whole surface of the substrate to cover
5 the first electrodes, the insulation member having a groove and a plurality of openings, the grooves formed between the first and second regions, and the openings formed on the first electrode;

a light emitting patterns disposed on the first electrodes, the light emitting patterns filling up the openings, respectively; and

10 a second electrode disposed on the light emitting patterns.

12. The display device of the claim 11, wherein a width of the groove is equal to or more than a width of the openings.

15 13. The display device of the claim 12, wherein the insulation member includes an organic material, an inorganic material or a photoresist material.

14. The display device of the claim 12, wherein a plurality of dummy light emitting patterns are formed on the substrate corresponding to the groove, and an
20 insulation layer is formed corresponding to the second region of the substrate.

15. A display device comprising:

a substrate having a first region and a second region surrounding the first region;

25 a plurality of first electrodes disposed in the first region;

an insulation film, formed on the substrate to cover the first electrodes, having a plurality of first and second openings, the first openings exposing a portion corresponding to each of the first electrodes, the second openings disposed in the second region;

5 light emitting patterns disposed on the first electrodes, the light emitting patterns filling up the first openings, respectively; and

a second electrode disposed on the light emitting patterns.

16. The display device of the claim 15, wherein a first width of the first openings is equal to or less than a second width of the second openings.

10 17. The display device of the claim 15, wherein a plurality of dummy light emitting patterns are formed on the substrate corresponding to each of the second openings.

15 18. A method of manufacturing a display device comprising:
forming a plurality of first electrodes in a first region formed on a substrate;
forming an insulation member on the first region, wherein the insulation member has a plurality of openings each exposing a portion corresponding to each of the first electrodes;

20 forming light emitting patterns on the first electrodes, respectively; and
forming a second electrode in the first region to cover the light emitting patterns.

19. The method of the claim 18, wherein a conductive layer including a
25 transparent conductive material is formed on the substrate and the conductive

material is patterned to form the first electrodes in the first region.

20. The method of the claim 19, wherein the first electrodes include an indium tin oxide (ITO) material or an indium zinc oxide (IZO) material.

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21. The method of the claim 19, wherein the openings have a rectangular shape, the openings have a pair of long sides to face each other and a pair of short sides to face each other, and the long sides are disposed in a first direction and the short sides are disposed in a second direction substantially perpendicular to the first direction, and the openings are disposed in a matrix shape.

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22. The method of the claim 18, wherein the insulation member is formed by:

forming an insulation layer on the first and second regions; and

15 patterning the insulation layer to expose the first electrode in the first region and to remove portions of the insulation layer in the second region.

23. The method of the claim 22, wherein the openings are eccentrically disposed on the center of the first electrodes.

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24. The method of the claim 22, wherein an edge portion of the insulation member is extended from the first region to the second region so as to form a substantially same interval between the openings.

25. The method of the claim 18, wherein a hole injection material as a

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droplet shape is dropped on the first electrode so as to form a hole injection layer of the light emitting patterns and a light emitting material as a droplet shape is dropped on the hole injection layer so as to form a light emitting layer of the light emitting patterns.

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26. The method of the claim 18, wherein a plurality of dummy light emitting patterns are disposed in the second region to adjust a speed of drying the light emitting patterns.